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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/779,437	02/09/2001	Alfred A. Barney	01997-286001	6675
26161	7590	02/23/2004	EXAMINER	
FISH & RICHARDSON PC 225 FRANKLIN ST BOSTON, MA 02110			JAGAN, MIRELLYS	
			ART UNIT	PAPER NUMBER
			2859	

DATE MAILED: 02/23/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

**Advisory Action**

Application No.

09/779,437

Applicant(s)

BARNEY ET AL.

Examiner

Mirellys Jagan

Art Unit

2859

AW

--The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

THE REPLY FILED 12 January 2004 FAILS TO PLACE THIS APPLICATION IN CONDITION FOR ALLOWANCE. Therefore, further action by the applicant is required to avoid abandonment of this application. A proper reply to a final rejection under 37 CFR 1.113 may only be either: (1) a timely filed amendment which places the application in condition for allowance; (2) a timely filed Notice of Appeal (with appeal fee); or (3) a timely filed Request for Continued Examination (RCE) in compliance with 37 CFR 1.114.

**PERIOD FOR REPLY** [check either a) or b)]

- a) ☒ The period for reply expires 4 months from the mailing date of the final rejection.
- b) ☐ The period for reply expires on: (1) the mailing date of this Advisory Action, or (2) the date set forth in the final rejection, whichever is later. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of the final rejection.
- ONLY CHECK THIS BOX WHEN THE FIRST REPLY WAS FILED WITHIN TWO MONTHS OF THE FINAL REJECTION. See MPEP 706.07(f).

Extensions of time may be obtained under 37 CFR 1.136(a). The date on which the petition under 37 CFR 1.136(a) and the appropriate extension fee have been filed is the date for purposes of determining the period of extension and the corresponding amount of the fee. The appropriate extension fee under 37 CFR 1.17(a) is calculated from: (1) the expiration date of the shortened statutory period for reply originally set in the final Office action; or (2) as set forth in (b) above, if checked. Any reply received by the Office later than three months after the mailing date of the final rejection, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

1. ☐ A Notice of Appeal was filed on \_\_\_\_\_. Appellant's Brief must be filed within the period set forth in 37 CFR 1.192(a), or any extension thereof (37 CFR 1.191(d)), to avoid dismissal of the appeal.
2. ☐ The proposed amendment(s) will not be entered because:
- (a) ☐ they raise new issues that would require further consideration and/or search (see NOTE below);
- (b) ☐ they raise the issue of new matter (see Note below);
- (c) ☐ they are not deemed to place the application in better form for appeal by materially reducing or simplifying the issues for appeal; and/or
- (d) ☐ they present additional claims without canceling a corresponding number of finally rejected claims.

NOTE: \_\_\_\_\_

3. ☐ Applicant's reply has overcome the following rejection(s): \_\_\_\_\_.
4. ☐ Newly proposed or amended claim(s) \_\_\_\_\_ would be allowable if submitted in a separate, timely filed amendment canceling the non-allowable claim(s).
5. ☒ The a) ☐ affidavit, b) ☐ exhibit, or c) ☒ request for reconsideration has been considered but does NOT place the application in condition for allowance because: See Continuation Sheet.
6. ☐ The affidavit or exhibit will NOT be considered because it is not directed SOLELY to issues which were newly raised by the Examiner in the final rejection.
7. ☐ For purposes of Appeal, the proposed amendment(s) a) ☐ will not be entered or b) ☐ will be entered and an explanation of how the new or amended claims would be rejected is provided below or appended.

The status of the claim(s) is (or will be) as follows:

Claim(s) allowed: \_\_\_\_\_

Claim(s) objected to: \_\_\_\_\_

Claim(s) rejected: \_\_\_\_\_

Claim(s) withdrawn from consideration: \_\_\_\_\_

8. ☐ The drawing correction filed on \_\_\_\_\_ is a) ☐ approved or b) ☐ disapproved by the Examiner.
9. ☐ Note the attached Information Disclosure Statement(s) (PTO-1449) Paper No(s). \_\_\_\_\_
10. ☐ Other: \_\_\_\_\_

Diego Gutierrez

Supervisory Patent Examiner  
Technology Center 2800

Continuation of 5. does NOT place the application in condition for allowance because: Applicant's arguments filed 1/12/04 are not persuasive.

Applicant's arguments that Ranson fails to describe or suggest determining the temperature of a surface of a substrate from the emission intensity of light from the sensor are not persuasive. Applicant states that, because Ranson uses the decay rate of the detected emission intensity of light to determine the temperature, Ranson fails to disclose the claimed step of determining the temperature from the detected emission intensity of light because using the decay rate of the detected emission intensity involves additional steps that are not part of applicant's discovery. This is not persuasive since Ranson discloses the claimed step of determining the temperature from the detected emission intensity of light, although indirectly. It is noted that the features upon which applicant appears to be relying upon, e.g., determining the temperature directly from a single detected emission intensity of light, are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

Applicant's arguments that Bawendi fails to disclose a semiconductor nanocrystal in a binder are not persuasive. Applicant states that on page 8, lines 7-24 of the specification the applicant indicates that a suspension medium is not a binder. This is not persuasive since this excerpt from the specification does not state anywhere that a suspension medium is not a binder. The specification describes on page 7 line 30 to page 8, line 12 that the surface of the nanocrystal has an overlayer formed by a coordinating group bonding to the surface of the nanocrystal, wherein a compound such as a polymer attaches to the overlayer, the polymer having a moiety that attaches with the dispersion medium, and the overlayer can react with another compound to bond the nanocrystal to "the binder", i.e., the dispersion medium. Since there is lack of antecedent basis in the Detailed Description for "the binder" in line 12 of page 8, the term "the binder" is interpreted to be the suspension or dispersion medium to which the compound that is attached to the nanocrystal binds to. Therefore, the specification appears to describe that the nanocrystal is bound to the dispersion medium.

Applicant's arguments that Britton does not teach semiconductor nanocrystals in a binder or semiconductor nanocrystals in a binder used in temperature measurement, and that Bawendi does not teach that semiconductor nanocrystals in a binder are used as temperature sensors are not persuasive since the rejections are not based on Britton's teaching of semiconductor nanocrystals and are not based on Bawendi's teaching that semiconductor nanocrystals are used as temperature sensors. The rejections are based on Britton's teaching that fluorescent phosphors are thermographic phosphors, and Bawendi's teaching that semiconductor nanocrystals in a binder are fluorescent phosphors.

In response to applicant's arguments on pages 3 to 4, in page 2 of the Advisory Action, the Examiner asserts that thermographic phosphors are known to be useful in obtaining temperature measurements.

Applicant's arguments that Bawendi does not teach a binder since Bawendi does not use the word "binder" are not persuasive since the nanocrystals are dispersed (attached) to the organic polymer, and the organic polymer in which the nanocrystals are dispersed can be considered, in a broad sense, a binder since the organic polymer binds the plurality of nanocrystals together, and since the specification discloses that a dispersion medium is a "binder", as stated above with respect to pages 7-8 of the specification. Furthermore, applicant's arguments that the "matrix" disclosed by Bawendi is different than the "matrix" disclosed by applicant are not persuasive since the matrix of Bawendi was not used to reject the claims.

In response to applicant's argument that there is no suggestion or motivation to combine the Ranson, Bawendi, Britton references, or the Wickersheim, Bawendi, Britton, Hase, and Prior Art, the Examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case, there is a teaching in the references to combine or modify the teachings of the prior art to produce the claimed invention since Ranson teaches that a thermographic phosphor is used as a luminescent element for determining the temperature of a surface, Bawendi teaches that a semiconductor nanocrystal in a binder is a fluorescent phosphor that is a luminescent element, and Britton teaches that fluorescent phosphors are known to be thermographic phosphors; and since Wickersheim teaches that a thermographic phosphor is used as a luminescent element in a paint applied to a surface for determining the temperature of the surface, Bawendi teaches that a semiconductor nanocrystal in a binder is a fluorescent phosphor, which is a luminescent element, Britton teaches that fluorescent phosphors are known as thermographic phosphors, Hase teaches that paint commonly has volatile solvents as an ingredient, and the Prior Art teaches that it is known to combine temperature-sensing compositions with pressure-sensing compositions.

In response to applicant's argument that the Examiner's conclusion of obviousness is based upon improper hindsight reasoning, it must be recognized that any judgment on obviousness is in a sense necessarily a reconstruction based upon hindsight reasoning. But so long as it takes into account only knowledge which was within the level of ordinary skill at the time the claimed invention was made, and does not include knowledge gleaned only from the applicant's disclosure, such a reconstruction is proper. See *In re McLaughlin*, 443 F.2d 1392, 170 USPQ 209 (CCPA 1971). In this case, the Examiner's conclusion of obviousness takes into account only knowledge which was within the level of ordinary skill at the time the claimed invention was made since the conclusion of obviousness is based on the teachings in the Ranson, Wickersheim, Bawendi, Britton, Hase, and Prior Art references, which are teachings that were available to a person having ordinary skill in the art at the time the claimed invention was made.